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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,923	12/27/2006	Claudiu Vasilescu	VAL 223 P2 / MFR 0204 PCT	7907
34232 7590 04/28/2008 MATTHEW R. JENKINS, ESQ. 2310 FAR HILLS BUILDING DAYTON, OH 45419				
EXAMINER DESAL, NAISHADH N				
ART UNIT 2834		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/597,923

**Applicant(s)**

VASILESCU, CLAUDIU

**Examiner**

NAISHADH N. DESAI

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8/11/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/11/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CIS-300)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 11/07/2006

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 11/07/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6,10-16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanaya et al (US 5650675).

3. As per independent claim 1:

A rotating electrical machine comprising a longitudinal axis,

an outer shell of hollow form (Fig 1), a stator fixed in the shell (Fig 1 and Col 3 ll 47-48), a rotary shaft passing through the stator along the longitudinal axis (Fig 1), a rotor fixed to the shaft rotating inside the stator (Fig 1 and Col 3 ll 42-43), and

a fan with blades driven rotationally by the shaft and disposed on a first axial side of the rotor inside said outer shell (Fig 1,5 and 6 and Col 3 ll 39-43), said outer shell having on the one hand at its outer periphery radial ports and on the other hand at least one of its axial ends, axial ports for constituting air inlet and air outlet ports arranged so that the fan creates a flux of air going from said air inlet to said air outlet (Fig 1),

said air inlet and outlet ports each consisting of an opening cut in the shell and subdivided by mechanical supporting fins each elongated according to a profile specific thereto (Figs 1 and 2), in which a radial port is made on a radial face overall of longitudinal orientation of the shell and has a substantially cylindrical overall shape coaxial with the longitudinal axis (Fig 7),

characterized in that at least one fin referred to as a radial fin of said radial port, considered in the plane tangential to this port at the level of said radial fin, extends in a general direction forming an angle greater than  $0^{\circ}$  with respect to the longitudinal direction (Figs 2-5) so that edges of the fan blades turned towards said port progressively sweep across the radial fin according to its profile while turning about the rotary shaft (Figs 2-5), in a shearing movement whereby at each instant only one substantially point-shaped portion of the edge of the blade is opposite the fin (it is inherent for the that only one edge of the blade would be opposite the fin at each instance).

4. As per independent claim 11:

An alternator for use in a vehicle, said alternator comprising a longitudinal axis,

an outer shell of hollow form (Fig 1), a stator fixed in the shell (Fig 1 and Col 3 ll 47-48), a rotary shaft passing through the stator along the longitudinal axis (Fig 1), a rotor fixed to the shaft rotating inside the stator (Fig 1 and Col 3 ll 42-43), and

a fan with blades driven rotationally by the shaft and disposed on a first axial side of the rotor inside said outer shell (Fig 1,5 and 6 and Col 3 ll 39-43), said outer shell having on the one hand at its outer periphery radial ports and on the other hand at least one of its axial ends, axial ports for constituting air inlet and air outlet ports arranged so that the fan creates a flux of air going from said air inlet to said air outlet (Fig 1),

said air inlet and outlet ports each consisting of an opening cut in the shell and subdivided by mechanical supporting fins each elongated according to a profile specific thereto (Figs 1 and 2), in which a radial port is made on a radial face overall of longitudinal orientation of the shell and has a substantially cylindrical overall shape coaxial with the longitudinal axis (Fig 7),

characterized in that at least one fin referred to as a radial fin of said radial port, considered in the plane tangential to this port at the level of said radial fin, extends in a general direction forming an angle greater than 0° with respect to the longitudinal direction (Figs 2-5) so that edges of the fan blades turned towards said port progressively sweep across the radial fin according to its profile while turning about the rotary shaft (Figs 2-5), in a shearing movement whereby at each instant only one substantially point-shaped portion of the edge of the blade is opposite the fin (it is

inherent for the that only one edge of the blade would be opposite the fin at each instance).

5. As per dependent claim 2:

The rotating electrical machine according to Claim 1, characterized in that the angle is less than  $30^\circ$  (Figs 4 and 5).

6. As per dependent claim 3:

The rotating electrical machine according to Claim 1, characterized in that the radial port comprises at least one radial fin which, considered in cross-section in a plane perpendicular to the longitudinal axis, is inclined with respect to the radial direction (Fig 2).

7. As per dependent claim 4:

The rotating electrical machine according to Claim 1, characterized in that at least one axial port is made on an axial face of the outer shell, overall of orientation perpendicular to the longitudinal axis, and is delimited on a radially inner side by a substantially circular inner edge, at least one fin, referred to as an axial fin, of said port, considered in a plane perpendicular to the longitudinal axis, extending in a general direction forming an angle less than  $90^\circ$  with respect to the tangent to the inner edge so that said axial fin, considered in cross-section in a plane perpendicular to the longitudinal axis, is inclined with respect to the radial direction (Figs 2 and 4 and 5).

8. As per dependent claim 5:

The rotating electrical machine according to Claim 4, characterized in that the angle is greater than 60° (Figs 4 and 5).

9. As per dependent claim 6:

The rotating electrical machine according to Claim 4, characterized in that the radial port comprises at least one radial fin which, considered in cross-section in a plane perpendicular to the longitudinal axis, is inclined with respect to the radial direction, and in that the axial fin, considered in cross-section in a plane perpendicular to the longitudinal axis, is inclined with respect to the radial direction in the same sense as the radial fin (Figs 2 and 4 and 5).

10. As per dependent claim 10:

The rotating electrical machine according to Claim 1, characterized in that at least one of the fins of at least one of the axial and radial ports has an edge turned towards the fan inclined so that the edges of the blades of the fan turned towards said port progressively sweep across said edge of the fin while turning about the rotary shaft (Figs 2 and 4 and 5).

11. As per dependent claim 12:

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The alternator according to Claim 11, characterized in that the angle is less than  $30^{\circ}$  (Figs 2 and 4 and 5).

12. As per dependent claim 13:

The alternator according to Claim 11, characterized in that the radial port comprises at least one radial fin which, considered in cross-section in a plane perpendicular to the longitudinal axis, is inclined with respect to the radial direction (Fig 2).

13. As per dependent claim 14:

The alternator according to Claim 11, characterized in that at least one axial port is made on an axial face of the outer shell, overall of orientation perpendicular to the longitudinal axis, and is delimited on a radially inner side by a substantially circular inner edge, at least one fin, referred to as an axial fin, of said port, considered in a plane perpendicular to the longitudinal axis, extending in a general direction forming an angle less than  $90^{\circ}$  with respect to the tangent to the inner edge so that said axial fin, considered in cross-section in a plane perpendicular to the longitudinal axis, is inclined with respect to the radial direction (Figs 2 and 4 and 5).

14. As per dependent claim 15:

The alternator according to Claim 14, characterized in that the angle is greater than  $60^{\circ}$  (Figs 2 and 4 and 5).



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15. As per dependent claim 16:

The alternator according to Claim 14, characterized in that the radial port comprises at least one radial fin which, considered in cross-section in a plane perpendicular to the longitudinal axis, is inclined with respect to the radial direction, and in that the axial fin, considered in cross-section in a plane perpendicular to the longitudinal axis, is inclined with respect to the radial direction in the same sense as the radial fin (Figs 2 and 4 and 5).

16. As per dependent claim 20:

The alternator according to Claim 11, characterized in that at least one of the fins of at least one of the axial and radial ports has an edge turned towards the fan inclined so that the edges of the blades of the fan turned towards said port progressively sweep across said edge of the fin while turning about the rotary shaft (Figs 2 and 4 and 5).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 7-9 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanaya et al (US 5650675).

17. As per dependent claim 7:

The rotating electrical machine according to Claim 1, characterized in that the radial fins have, perpendicular to their profile, a section of constant size.

18. As per dependent claim 8:

The rotating electrical machine according to Claim 1, characterized in that the radial fins have, perpendicular to their profile, a section of variable size along this profile.

19. As per dependent claim 9:

The rotating electrical machine according to Claim 8, characterized in that the fins have a curved profile.

Regarding claims 7-9 above, Kanaya et al discloses the claimed invention except for the shape or size of the radial fins to be of a particular shape. It would have been an obvious matter of design choice to make radial fins of different shapes and sizes, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Kanaya et al also teaches the fins to have a curved profile and a section with variable size (Figs 2,4,5,7 and 8). The motivation to change the shape of the fins would be based on the parameters of space

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availability, location of the fins with respect to the stator, housing as well as size/ and shape of the stator to determine the location and shape and size of the fins. The motivation would also be that it would increase the flow of cooling air and reduce whizzing sounds and noise (abstract).

20. As per dependent claim 17:

The alternator according to Claim 11, characterized in that the radial fins have, perpendicular to their profile, a section of constant size.

21. As per dependent claim 18:

The alternator according to Claim 11, characterized in that the radial fins have, perpendicular to their profile, a section of variable size along this profile.

22. As per dependent claim 19:

The alternator according to Claim 18, characterized in that the fins have a curved profile.

Regarding claims 17-19 above, Kanaya et al discloses the claimed invention except for the shape or size of the radial fins to be of a of a particular shape It would have been an obvious matter of design choice to make radial fins of different shapes and sizes, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Kanaya et al also teaches the fins to have a curved profile and a section with variable size (Figs 2,4,5,7 and 8). The motivation to change the shape of the fins would be based on the parameters of space availability,

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location of the fins with respect to the stator, housing as well as size/ and shape of the stator to determine the location and shape and size of the fins. The motivation would also be that it would increase the flow of cooling air and reduce whizzing sounds and noise (abstract).

### ***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for details.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAISHADH N. DESAI whose telephone number is (571)270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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